



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1069; Directorate Identifier 2012-NM-044-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (NPRM); reopening of comment period.

SUMMARY: We are revising an earlier proposed airworthiness directive (AD), for all The Boeing Company Model 727 airplanes, which proposed to supersede an existing AD. That NPRM proposed to retain repetitive inspections of the in-tank fuel boost pump wiring, installation of sleeving over the in-tank fuel boost pump wires, repetitive inspections of a certain electrical wire, sleeve, and conduit, and applicable investigative and corrective actions; and repetitive engine fuel suction feed operational tests. That NPRM proposed to also require replacement of the wire bundles for the wing and center fuel boost pumps, installation of convoluted liners, and related investigative and corrective actions if necessary. That NPRM also proposed to require replacement of the fuel quantity indicating system (FQIS) wires; a low-frequency eddy current inspection for cracking; and repair if necessary. That NPRM also proposed to require revising the maintenance program to incorporate changes to the airworthiness limitations section. That NPRM was prompted by a report of damage found to the sleeve, jacket, and insulation on an electrical wire during a repetitive inspection. This action revises that NPRM by revising certain compliance times, specifying a terminating action, and adding a proposed requirement to incorporate another change to the airworthiness limitations section. We are proposing this supplemental NPRM to prevent chafing of the fuel boost

pump electrical wiring and leakage of fuel into the conduit, and to prevent electrical arcing between the wiring and the surrounding conduit, which could result in arc-through of the conduit, and consequent fire or explosion of the fuel tank. Since these actions impose an additional burden over that proposed in the NPRM, we are reopening the comment period to allow the public the chance to comment on these proposed changes.

DATES: We must receive comments on this supplemental NPRM by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Rebel Nichols, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6509; fax: 425-917-6590; email: rebel.nichols@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1069; Directorate Identifier 2012-NM-044-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We issued an NPRM to amend 14 CFR part 39 to include an AD that would apply to to all Boeing Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, certificated in any category. That NPRM published in the Federal Register on October 11, 2012 (77 FR 61731). That NPRM proposed to retain repetitive inspections of the in-tank fuel boost pump wiring to detect chafing of the wire insulation, evidence of electrical arcing, or arc-through of the conduit wall, and applicable corrective action; and installation of sleeving over the in-tank fuel boost pump wires. That NPRM also proposed to retain repetitive inspections for damage of a certain electrical wire and sleeve, and arcing damage of the conduit and signs of fuel leakage into the conduit; applicable investigative and corrective actions; and repetitive engine fuel suction feed operational tests. That NPRM proposed to require replacement of the wire bundles for the wing and center fuel boost pumps with new, improved wire bundles, installation of convoluted liners, and related investigative and corrective actions if necessary. That NPRM also proposed to require replacement of the FQIS wires with new, improved wires; a low-frequency eddy current inspection for cracking; and repair if necessary. That NPRM also proposed to require revising the maintenance program to incorporate changes to the airworthiness limitations section.

Actions Since Previous NPRM (77 FR 61731, October 11, 2012) was Issued

Since we issued the previous NPRM (77 FR 61731, October 11, 2012), we have determined that additional limitations are necessary and that the initial compliance time for one task must be reduced. The preamble to AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007) explains that we consider the requirements “interim action” and were considering further rulemaking. We now have determined that further rulemaking is indeed necessary, and this proposed AD follows from that determination.

Comments

We gave the public the opportunity to comment on the NPRM (77 FR 61731, October 11, 2012). The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Add Airworthiness Limitations

Boeing requested that we add ALI Task 28-AWL-18, "Fuel Quantity Indicating System (FQIS) – Out-Tank Wiring Lightning Shield to Ground Termination," and Critical Design Configuration Control Limitation (CDCCL) Task 28-AWL-19, "Fuel Quantity Indicating System (FQIS) – Out-Tank Wiring Lightning Shield to Ground Termination" to the original NPRM (77 FR 61731, October 11, 2012).

We agree with the request. We have added new paragraph (n)(1) in this supplemental NPRM to require revising the maintenance program to include both tasks. These AWL's are necessary after accomplishing the actions specified in Boeing Alert Service Bulletin 727-28A013, dated August 18, 2010, which is proposed in paragraph (m) of this supplemental NPRM.

Request for Correction

Boeing requested that we correct the Relevant Service Information section and paragraph (n) of the NPRM (77 FR 61731, October 11, 2012) to refer to Section B rather than Section 9 of Boeing 727-100/200 Airworthiness Limitations (AWLs), D6-8766-AWL, Revision August 2010. Boeing stated that there is no section 9 in that document.

We agree with the request. Although the Relevant Service Information is not repeated in this supplemental NPRM, we have made the correction to new paragraph (n)(2) of this supplemental NPRM (which was paragraph (n) of the previous NPRM (77 FR 61731, October 11, 2012)).

Change to Compliance Time

Paragraph (n) of the previous NPRM (77 FR 61731, October 11, 2012) specified a compliance time of 60 months after the effective date of the AD for accomplishing the initial task for Airworthiness Limitation Instruction (ALI) Task 28-AWL-20, “Fuel Boost Pump Wires in Conduit Installation – In Fuel Tank;” and CDCCL Task 28-AWL-21, “Fuel Boost Pump Wires in Conduit Installation – In Fuel Tank,” of Section B of Boeing 727-100/200 Airworthiness Limitations (AWLs), D6-8766-AWL, Revision August 2010. We have added paragraph (n)(2) to this supplemental NPRM to change the compliance time for accomplishing the initial task to within 72 months after accomplishing the actions specified in Boeing Service Bulletin 727-28A0133, dated October 5, 2011.

FAA’s Determination

We are proposing this supplemental NPRM because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design. Certain changes described above expand the scope of the previous NPRM (77 FR 61731, October 11, 2012). As a result, we have determined that it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this supplemental NPRM.

Proposed Requirements of the Supplemental NPRM

This supplemental NPRM would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between the Supplemental NPRM and the Service Information.”

Differences Between the Supplemental NPRM and the Service Information

Although Boeing Alert Service Bulletin 727-28A0133, dated October 5, 2011, specifies that operators may contact the manufacturer for disposition of certain repair conditions, this proposed AD would require operators to repair those conditions using a

method approved in accordance with the procedures specified in paragraph (p) of this AD.

Costs of Compliance

We estimate that this proposed AD affects 569 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Number of U.S. Airplanes	Cost on U.S. operators
Inspection, test, and corrective actions [retained actions from existing AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007)]	10 work-hours X \$85 per hour = \$850	\$0	\$850	260	\$221,000
Replacement [proposed action]	185 work-hours X \$85 per hour = \$15,725	\$28,771	\$44,496	569	\$25,318,224
Revise Maintenance Program [proposed action]	1 work-hour X \$85 per hour = \$85	\$0	\$85	569	\$48,365
Concurrent FQIS wire replacement [proposed action]	Up to 248 work-hours X \$85 per hour = \$21,080	Up to \$34,865	Up to \$55,945	569	Up to \$31,832,705

Action	Labor cost	Parts cost	Cost per product	Number of U.S. Airplanes	Cost on U.S. operators
Concurrent low frequency eddy current (LFEC) inspection [proposed action]	2 work-hours X \$85 per hour = \$170	\$0	\$170	569	\$96,730

We have received no definitive data that would enable us to provide a cost estimate for the on-condition actions specified in this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This proposed regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2012-1069; Directorate Identifier 2012-NM-044-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007).

(c) Applicability

(1) This AD applies to all The Boeing Company Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, certificated in any category.

(2) This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections) and/or Critical Design Configuration Control Limitations (CDCCLs). Compliance with these actions and/or CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (p) of this AD. The request should include a description of changes to the required actions that will ensure the continued operational safety of the airplane.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 28, Fuel.

(e) Unsafe Condition

This AD was prompted by a report of damage found to the sleeve, jacket, and insulation on an electrical wire during a repetitive inspection. We are issuing this AD to prevent chafing of the fuel boost pump electrical wiring and leakage of fuel into the conduit, and to prevent electrical arcing between the wiring and the surrounding conduit, which could result in arc-through of the conduit, and consequent fire or explosion of the fuel tank.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Compliance Times

This paragraph restates the requirements of paragraphs (f), (g), and (h) of AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007).

(1) For airplanes with 50,000 or more total flight hours as of June 28, 1999 (the effective date of AD 99-12-52, Amendment 39-11199 (64 FR 33394, June 23, 1999)): Within 20 days after June 28, 1999, accomplish the requirements of paragraph (h) of this AD.

(2) For airplanes with less than 50,000 total flight hours, but more than 30,000 total flight hours, as of June 28, 1999 (the effective date of AD 99-12-52, Amendment 39-11199 (64 FR 33394, June 23, 1999)): Within 30 days after June 28, 1999, accomplish the requirements of paragraph (h) of this AD.

(3) For airplanes with 30,000 total flight hours or less as of June 28, 1999 (the effective date of AD 99-12-52, Amendment 39-11199 (64 FR 33394, June 23, 1999)): Within 90 days after June 28, 1999, accomplish the requirements of paragraph (h) of this AD.

(h) Retained Detailed Inspection, Corrective Action, and Installation

This paragraph restates the requirements of paragraph (i) of AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007).

(1) Perform a detailed inspection of the in-tank fuel boost pump wire bundles, and applicable corrective actions; and, except as provided by paragraph (i) of this AD, install sleeving over the wire bundles; in accordance with Boeing Alert Service Bulletin 727-28A0126, dated May 24, 1999; Boeing Service Bulletin 727-28A0126, Revision 1, dated May 18, 2000; or Boeing Alert Service Bulletin 727-28A0132, dated February 22, 2007.

(2) For the purposes of this AD, a detailed inspection is: An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an

intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required.

(i) Retained Installation: Possible Deferral

This paragraph restates the optional actions of paragraph (j) of AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007). Installation of sleeving over the wire bundles, as required by paragraph (h) of this AD, may be deferred if, within 18 months or 6,000 flight hours, whichever occurs first, after accomplishment of the inspection and applicable corrective actions required by paragraph (h) of this AD, the following actions are accomplished: Perform a detailed inspection of the in-tank fuel boost pump wire bundles, and applicable corrective actions; and install sleeving over the wire bundles; in accordance with Boeing Alert Service Bulletin 727-28A0126, dated May 24, 1999; Boeing Service Bulletin 727-28A0126, Revision 1, dated May 18, 2000; or Boeing Alert Service Bulletin 727-28A0132, dated February 22, 2007.

(j) Retained Repetitive Inspections and Corrective Actions

This paragraph restates the requirements of paragraph (k) of AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007). Repeat the detailed inspection and applicable corrective actions required by paragraphs (h) and (i) of this AD, as applicable, at intervals not to exceed 30,000 flight hours, until the initial inspection, applicable corrective actions, and engine fuel suction feed operational test required by paragraph (k) of this AD have been done.

(k) Retained Inspection, Test, and Related Investigative and Corrective Actions

This paragraph restates the requirements of paragraph (l) of AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007). For all airplanes: Within 120 days after June 6, 2007 (the effective date of AD 2007-11-08), or 5,000 flight hours after the last inspection or corrective action done before June 6, 2007, as required by paragraph (h), (i), or (j), as applicable, of this AD, whichever occurs later, do a detailed inspection

for damage of the sleeve and electrical wire of the fuel boost pump, and do an engine fuel suction feed operational test; and, before further flight, do related investigative and corrective actions, as applicable; by doing all applicable actions in and in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 727-28A0132, dated February 22, 2007. Repeat the detailed inspection and engine fuel suction feed operational test thereafter at intervals not to exceed 15,000 flight cycles. Accomplishment of the initial inspection, applicable corrective actions, and engine fuel suction feed operational test of this paragraph terminates the requirements of paragraphs (h), (i), and (j) of this AD.

(l) New Installation

Within 60 months after the effective date of this AD: Install new shielded wire bundles in convoluted liners in the wing and center fuel tank conduits and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 727-28A0133, dated October 5, 2011. Related investigative and corrective actions must be done before further flight. Doing the actions specified in paragraphs (l) and (m) of this AD terminates the requirements of paragraphs (g), (h), (i), (j), and (k) of this AD.

(m) New Concurrent Requirement

Before or concurrently with accomplishing the requirements of paragraph (l) of this AD, replace the fuel quantity indicating system (FQIS) wire bundles and do a low frequency eddy current inspection for cracking, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 727-28-0131, dated August 18, 2010. If any cracking is found during the inspection, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (p) of this AD.

(n) New Maintenance Program Revision

(1) Within 60 days after the effective date of this AD: Revise the maintenance program to incorporate Airworthiness Limitation Instruction (ALI) Task 28-AWL-18, “Fuel Quantity Indicating System (FQIS) – Out-Tank Wiring Lightning Shield to Ground Termination”; and CDCCL Task 28-AWL-19, “Fuel Quantity Indicating System (FQIS) – Out-Tank Wiring Lightning Shield to Ground Termination,” of Section B of Boeing 727-100/200 Airworthiness Limitations (AWLs), D6-8766-AWL, Revision August 2010. The initial compliance time for the inspections is within 120 months after accomplishing the actions required by paragraph (m) of this AD.

(2) Within 60 days after the effective date of this AD: Revise the maintenance program to incorporate Airworthiness Limitation Instruction (ALI) Task 28-AWL-20, “Fuel Boost Pump Wires in Conduit Installation – In Fuel Tank”; and CDCCL Task 28-AWL-21, “Fuel Boost Pump Wires in Conduit Installation – In Fuel Tank,” of Section B of Boeing 727-100/200 Airworthiness Limitations (AWLs), D6-8766-AWL, Revision August 2010. The initial compliance time for the inspections is within 72 months after accomplishing the actions required by paragraph (l) of this AD.

(o) No Alternative Actions, Intervals, and/or CDCCLs

After accomplishing the revisions required by paragraphs (n)(1) and (n)(2) of this AD, no alternative actions (e.g., inspections), intervals, and/or CDCCLs may be used unless the actions, intervals, and/or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (p) of this AD.

(p) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to:

9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously in accordance with AD 2007-11-08, Amendment 39-15065 (72 FR 28594, May 22, 2007), are approved as AMOCs for the corresponding provisions of this AD.

(q) Related Information

(1) For more information about this AD, contact Rebel Nichols, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6509; fax: 425-917-6590; email: rebel.nichols@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on August 2, 2013.

Ross Landes, Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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